

The Athenian Mercury:

Saturday, May 20. 1693.

An Account of the Loadstone.

That according to a late Promise, you may the better therefore apprehend the Solution of the various Effects of the Loadstone, We shall first as briefly as possible, give you an Explication of the Generation of it, which according to our Modern Philosophers is this:

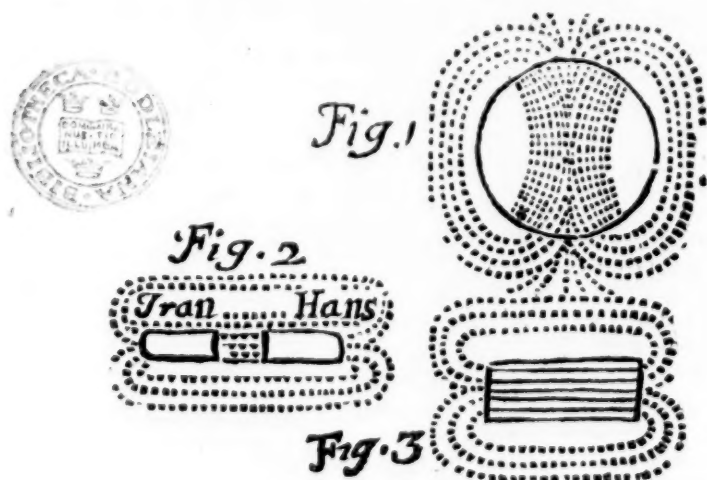
The Earth, together with its Vortex, in which is contain'd the Moon, together with all the interjacent fluid Matter of the Heavens, being continually rouled about upon its Axis in the space of 24 hours, does by the continual motion and attrition of one particle against another rubb off little particles, which by their motion become still more fine and subtile, and consequently require more space than before, this fine dust (therefore if I may so call it) which is by the motion of the Vortex rubb'd off, striving to make it self room about the superficies of the Vortex, is hinder'd and repuls'd by those parts of the Suns Vortex which do immediately inclose it, and by that fullness which is in the Universe, so that it is constrained to move down to the Center of its own Vortex: and that it cannot do, but only about the poles thereof, where the motion is not so rapid as about the Æquator, and consequently not so capable of making resistance against it; these particles therefore moving towards the Center of this Vortex, wherein the Earth is placed, are by the continual pressure of new similar particles, which are continually descending in lines parallel to the poles, forced to go past the Center, and to move quite thro' the Earth, those which entred by the North pole out at the Southern one, and those on the contrary, which entred by the South-pole out at the Northern one; these particles therefore when they go to pass out at the opposite Pole, meeting the subtile matter, which does there descend towards the Center, is of necessity forced back, but finding the pores through which they moved before fill'd by other particles moving in the same manner as they did before, they are forced to turn their Course, and to move along thro' and about the Spongy Superficies of the Earth towards the same pole whereby they at first entred, and so are moved continually in a kind of circular motion. In this manner which

particularly to the Loadstone; having first granted this motion of the subtile matter of the Vortex of the Earth, you will easily assent to this, that the particles which move through the Bowels of the Earth, when they light of a Body fit to receive the Action, will also move through it, and make it self passages parallel to the poles of the Earth, and that if that Body be of any great solidity, as the Loadstone is, it will retain those pores after it be taken out of the Earth, which pores being full of that subtile matter aforesaid which strives to go out at each pole of the body, and being hindred by the matter of the Vortex, which meets it as soon as got out of the Body, it is forced to move it self circularly along the superficies of the same, till it come to the Pole at which it entred at first, and there reentering continues its motion as before, just in the same manner as the subtile matter of the great Vortex of the Earth moves. Now why the Loadstone should acquire these parallel pores, and this determination of motion more than any other Bodies which are in the Entrails of the Earth, may be because of the Natural Ordination and Determination of its parts, as being fitter to receive the actions of those particles than any other equally hard and solid Body, for that it should be very solid so as to retain that conformation of parts, and determination of pores after it be taken out of the Earth, is also requisite, as well as that it should at all have them, otherwise it would immediately lose its faculty of Attraction, (as it seems to be) its pores being too pliable to retain their acquired determination.

Having premised thus much of the Production of the Loadstone, We'll now come to the Solution of the Phenomena's thereof, and first of the Reason of its Attraction of Iron or Steel, the Reason whereof is this:

As Steel is but a more perfect sort of Iron, so the Loadstone is but a more perfect sort of Steel, as has been Experimented by melting a Loadstone, and converting it into pure Steel: So that in Iron and Steel there is the same parallel pores as in the Loadstone, but being stop'd by some terrene particles, it hinders them from having the like Qualities with the Loadstone. Now by applying the Loadstone to either Iron or Steel, the Matter which continually moves about its superficies getting into the pores of the Iron, &c. opens them, making it self thereby free passages thro' them, so that thereby the Iron, &c. becomes a true Loadstone it self, having all the Qualities of that wherewith it was touched: But that you may conceive how the Iron comes to approach to the Loadstone, if put near it, suppose a Loadstone in a little Boat just so big as to sustain it from sinking, near to which you hold a piece of Iron, &c. the Matter which goes out of the Pole of the Loadstone next to the applied Iron, which before by the Circumambient Matter was repulsed and forced to move circularly about the superficies of the Stone, meeting with the Iron as it goes out of the Loadstone, and finding pores fit for its reception, does keep on its Course thro' the Iron: Now the particles as they pass out of the Loadstone into the Iron, (Fig. 2.) do expulse all the Air which was between their two Bodies, and hindred their motion which by reason of the fullness of all things, is forced to turn its Course circularly, part along the superficies of the Stone, and part along the superficies of the Iron, till it come to the Extremities of each, where when it comes, it must of necessity force them together, as having no Air between them to impede their coming together, and the Matter which freely moves out of one Body into the other, rather facilitat-

ing



moves on this fashion (Fig. 1.) consists all the Efficacy of a Loadstone, and whatsoever has pores fitted for such a motion of the subtile matter, is a Loadstone potentially, and would be one actually, if furnish'd with matter to move in that manner through its pores, so that the Earth it self is but one great Loadstone, whose Operations one might with Astonishment behold, were one but remov'd just out of its Sphere of Activity. But to come more par-

ting than hindring their Uniting, by which Air which acts equally upon each, to make them come together, as also by the Experiment of a Load-stone in a little Boat, which will come to the Iron, if the Iron be so held that it cannot come to the Stone, it appears that the Iron may as well be said to attract the Stone, as that the Stone attracts the Iron, and that it is the Pressure of the Air which causes their Uniting,

As for the Nature of the Load-stone in respecting continually the Poles, if so poised as that it can freely turn it self any way, as also why the Needle touched therewith does still observe the same parts of the Heaven; the Reason is this, That whereas there is a continual quantity of Matter, which (for the Reasons above given) moves towards and thro' the Earth, in Lines parallel to the Poles; the Load-stone or Needle (which after having been rubb'd upon the Load-stone has the same Effects) is by this Matter so turned as to Correspond with its Motion, whereby it may the least as is possible impede this Course of the Matter of the Vortex, and also that it may most conveniently receive the finer Particles thereof through its own Pores, which it cannot do any other way so vastly as by placing its own Pores parallel to the Polar Pores of the Vortex.

But having been pretty long already, We'll only add two or three Experiments for the confirming and illustrating what has been already said, and leave the Solution of the other particular Qualities for the Subject of another Mercury.

And first that the Effects of the Loadstone are produced only by such a Matter moving as before said, is proved, in that a Bar of Iron which has stood long parallel to the Poles, or only upright upon one end, does without the application of a Loadstone to it acquire the Virtue of the Loadstone it self, tho' but in a small measure; yea, which We our selves have experimented, a pair of Tongs or a Fire-shovel which are used to stand long upon one end, will have in some measure the Magnetick Virtues, which can be attributed to nothing else but to the Motion of the Particles aforesaid, which will evidently appear, if you consider that Iron which has been long in any other Position does not at all acquire the same faculties. *Robault* says that he to experiment this the better, got him a small Bar of Steel, which he having heated Red hot (in a perpendicular Position) that it might the easier receive the Act of the Matter of the Vortex, and have its Pores open'd thereby, and having held it so a small time, did afterwards in the same position cool it in a Tub of Water, whereby it might acquire that solidity which was requisite for the retaining the said Determination of Pores, which when he had done, he found it to have all the Magnetick Virtues, and that in a pretty great degree, which in Our Opinion is a very solid Proof of what has been before said, &c.

Another Experiment is this, that if you place a weaker Loadstone near to a stronger, the stronger will extract the magnetick Matter out of the other, and make it lose all its Virtue, yet if you place one two or three days in the open Air, it will have fill'd its Pores again with New subtle Matter, and reacquire its former Faculties.

Another Experiment, which is the last which We shall give you at present, and which does set before your Eyes the aforesaid Motion of the Magnetick Matter, is this; If you take a Loadstone, and let it into a hole cut in the middle of a sheet of Paper, so that the Poles shall lye Horizontally, and having done this, sprinkle about this the Filings of Iron or Steel, it will lay it self in such an Order as this, (*Fig. 3.*) the very sight whereof is enough to make one conclude that there is some subtle Matter which moves continually in that manner, if there were nothing else that had the least appearance of reason for such a Matter and Motion.

There is newly Publish'd

☞ *The Day of Jubilee, or a Practical Discourse on 1 Thes. 4. 17.* By *John Brandon*, Rector of *Finchamstead*. Price 6 d.

☞ *An Earnest Call to Family Reformation*: By a Re-

verend Divine. Price 6 d. single, or 50 of 'em for 20 s. to those Gentlemen that buy them to disperse. Both Printed for *J. Dunton* at the *Raven* in the *Poultry*.

Advertisements.

Fluent, true and proper Latine and French is undertaken and Taught by *Mr. Switerda* in one Year to any Nobleman, Gentlemen or Ladies that are desirous to speak the said Languages, or to explain any Author in either of them, which if formerly learned are recoverable in three or four Months. And for the Convenience of those who live at great distance, he has a particular Method of imparting all the Instructions that are necessary to attain to perfection in the same in manner following, viz. for Latine in 48 Hours, and for French in 24, and the like in other Languages; that is to say, twice a Week, one hour a time.

He Teacheth Mondays, Wednesdays and Frydays in *Arundel-street* in the Strand, next to the *White Lyon*, and the other days in *Bow-Church-yard* nigh the *Writing-School*, where you may have Gramatical and Historical Cards, and French Cards fit for School-Mistresses.

There is lately arriv'd in this City a very Ingenious Dutch Man, called *Mr. Vandepolle*, who has found the only true Secret for Curing all sorts of Crookedness in any part of the Body whatsoever, and that in a very short time, and without putting his Patient to the least Pain, provided they be under twenty Years of Age. He further obliges himself to satisfy any Learned Physician or other Curious Person, by clear and certain Reason, that it is impossible perfectly to Cure this Malady by Iron Boddice, which are now used by them who pretend to be most skilful and expert therein. Any Person who desires to Employ him may be further satisfied by one of the King's Physicians, to whom he was recommended by an Eminent Physician in Holand, who has Attested the great Cures he has done in that Countrey, and likewise by those he has done in this City since he arrived. He liveth in *Wardor-street*, over against the *Golden Head*, at the upper end of *Old Soho*, behind *St. Anns Court*.

At the Outroppers-Office the West End of the *Royal Exchange*, is to be Sold an Extraordinary Collection of Pictures, and other Curiosities, being the Pictures of several Persons of Quality lately Deceased, which are now already hung up, and ready to be Exposed to Sale at a prefix'd Price, being Pictures of all sizes, fit for Closets, Halls and Stair-Cases, and most of them Originals, on every Wednesday and Thursday (to Sell by Day-light) till all be Sold, at Three of the Clock each Afternoon, beginning this Week, and if any Person cannot come at the Sale, they may be furnished before and after the Sale: And all People that have any good Pictures, Goods, or any Curiosities that they are willing to Dispose of, may bring them into the said Office, and have one half of the Value of the said Goods down, and the other half when they are Sold, paying Interest for the Money till they shall receive the same, where Attendance will be given from this Day, from Six every Morning till Seven at Night, to either receive in, or dispose of the aforesaid Goods. Catalogues gratis.

☞ **E**lixir Stomachicum: Or, the great Cordial Elixir for the Stomach; of a delicate Flavour, and pleasant bitterish Taste: Not Purging, but Cordial only; to be drank at any time, (but especially in a Morning) in any Liquor, as Ale, Tea, Mum, Canary, White-Wine, A Dram of Brandy, &c. It makes the best Purl in the World in Ale, and in Canary, Tea, &c. very pleasant and wholesome, far exceeding Purl made of Wormwood, which (being so hot and drying) hurts the Sight, and dries the blood very much: This having the Quintessence of all the Ingredients of the bitter Draught in it, and many other excellent Stomachicks brought into a small quantity, as that 30 or 40 Drops is a Dose; you may make it at your pleasure in a Glass of White-Wine, Tea, or other Liquor; it procures a good Appetite, helps Digestion, expels all Wind, Strengthens the Stomach, purifies the Blood, and destroys the Scurvy, with many other Virtues mentioned in the Bills given with it; but these six things (especially) it does beyond belief, without your experience in. Price One Shilling each Bottle.

It is to be Sold by *Mr. John Dunton* at the *Raven* in the *Poultry*; and at these Coffee-houses, viz. *Symonds-Inn* in *Chancery-Lane*, at *Vigore's* in the *Old Pallace-Yard*, *Westminster*, *Victualling Office* at *Tower-Hill*, *Mans* at *Charing-Cross*, *Essex* at *Whitechappel*, *North's* in *King-street* by *Guild-Hall*, *Richard's* at *Temple-bar*, *Smythers* in *Thames-street*, *Will's* in *Covent Garden*, *Blacketts* at *Spittle-fields*, *Wells* at the *Postern* in *Aldermanbury*, *John's* in *Fuller's Rents*, *Buckeridge's* without *Aldersgate*, *Hamer's* on *London-bridge*, *Brown's* at *Wapping Old-stairs*, *John's* by the *Kings-bench*, *Jonathan's* in *Exchange Alley*, *Smith's* at *Lambeth*, by the Church, *Cleve's* at *Greenwich*, by the Church; by *Mr. Tho. Collet Jun.* near the *Hermitage*, *Tobacco-nist*; *Mr. Leavinton*, *Frutiger* at the *Royal Exchange*, and *Tho. Howkins* in *George-yard* in *Lombard-street*.

L O N D O N, Printed for *John Dunton* at the *Raven* in the *Poultry*, 1693.